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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|------------------------|------------------|
| 09/820,947 | 03/30/2001 | Yoshiko Matsumoto | 500.39944X00 | 9877 |
| 20457 | 7590 | 03/08/2004 | EXAMINER | |
| ANTONELLI, TERRY, STOUT & KRAUS, LLP 1300 NORTH SEVENTEENTH STREET SUITE 1800 ARLINGTON, VA 22209-9889 | | | BATAILLE, PIERRE MICHE | |
| | | ART UNIT | PAPER NUMBER | |
| | | 2186 | 7 | |
| DATE MAILED: 03/08/2004 | | | | |

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|------------------------|---------------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 09/820,947 | MATSUMOTO ET AL. | |
| | Examiner | Art Unit | |
| | Pierre-Michel Bataille | 2186 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 30 March 2001.

2a) This action is **FINAL**. 2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-29 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) Claim(s) _____ is/are allowed.

6) Claim(s) 1-3,8,9 and 11-18 is/are rejected.

7) Claim(s) 4-7,10 and 19-29 is/are objected to.

8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.

 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) All b) Some * c) None of:
1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. _____.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) Notice of References Cited (PTO-892)
2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 5-6.

4) Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ .
5) Notice of Informal Patent Application (PTO-152)
6) Other: ____ .

DETAILED ACTION

1. This Office Action is taken in response to examination of the instant application which: presents 29 claims under examination; claims priority under 37 USC 119 based on Japanese application filed March 2, 2001.

Specification/Objection

2. The specification has not been checked to the extent necessary to determine the presence of all possible minor errors.

In the claims:

Claim 1 recites: "each disk controller comprising one port or a plurality of independent ports". It appears that this recitation is unclear as it is unclear how to picture a controller with one port or a plurality of independent ports because the specification does not appear to support such requirement. Fig. 2 shows controller A having Port A controller 100 and Port B controller 200.

Claim 2 recites: "said disk controller uses a function as claimed in claim 1". It is unclear what function is performed. Although the examiner cannot speculate on the intended meaning of the clause, application is advised to rephrase for clarifying the intended meaning of such function.

Claim 10: "the control", recited, lacks antecedent basis.

Claim 13, it is unclear whether the claim depends upon claim 1 or whether it depends upon claim. It appears that the claim's dependency should be changed to 12

for "the duplexing processing and the backup processing" to have proper antecedent basis. The claim is examined as if being dependent upon claim 12.

Claim 14, it is unclear whether the claim depends upon claim 1 or whether it depends upon claim. It appears that the claim's dependency should be changed to 12 for "the backup processing" to have proper antecedent basis. The claim is examined as if being dependent upon claim 12.

Claim 16 recites: "the schedule as claimed in claim 15". The schedule lacks antecedent basis in the claims. Although the examiner cannot speculate on the intended meaning of the clause, application is advised to rephrase for clarifying the intended schedule.

Claim 19: it appears that "a memory stored" should be replaced with – a memory storing -.

Claim 20: it appears that "ins aid" should be replaced with "in said" for clarity.

Claims 21: it appears that "or" should be replaced with – and – as the claims recites one of "element A, element B, and element C".

Claim 23: "said storage controller" lacks antecedent basis in the claim. It appears that "storage controller" should be replaced with "disk array controller" for proper antecedent basis.

Claim 23: it appears that the process to be executed is lacking in the claim.

Claim 26: "continue executing said back task" lacks antecedent basis.

Claim 28: "said process type information" lacks antecedent basis in the claims.

Please note that these are merely exemplary. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 1-16 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Claim 1 recites: "each disk controller comprising one port or a plurality of independent ports". It appears that this recitation is unclear as it is unclear how to picture a controller with one port or a plurality of independent ports because the specification does not appear to support such requirement. (See specification page 9, Lines 12-25). Fig. 2 shows controller A having Port A controller 100 and Port B controller 200.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1-2, 8-9, 11, and 17-18 are rejected under 35 U.S.C. 102(b) as being anticipated by US 5,960,216 (Vishlitzky et al).

With respect to claims 1 and 17-18, Vishlitzky discloses a network environment composed of one or more host computers (Host CPU 11& 23, Fig. 3) and one or more disk controllers (master storage controller 17 & 19, Fig. 3) each of said disk controllers controlling storage media according to an instruction from the host computers [Col. 4, Lines 51-55; Col. 4, Lines 37-44], each of said disk controllers comprising a plurality of controllers (ESCON interface unit & master controller 32 & 30, Fig. 3) each having a plurality of independent ports (communication channel or ESCON communication line 33, Fig. 3) for controlling a bus protocol between the host computers and storage systems [(controller 30 and ESCON interface unit 32 performing the function of controlling communication between hosts and storage devices using ESCON protocol) Col. 4, Lines 51-55; Col. 4, Lines 37-44], and a cache mechanism for temporarily storing host data [(storage buffer) Col. , wherein said ports execute a request from the host computers and at the same time transfers storage medium data to other storage controllers [(communication channel not dedicated solely to ESCON communication but

for mirroring data contained in storage devices) abstract; Col. 5, Lines 22-30; Col. 6, Lines 35-39].

With respect to claims 2 and 8-9, Vishlitzky discloses the disk controller to execute backup processing via a port via which online processing is being executed and said backup being executable at the plurality of ports at the same time to reduce backup processing time [communication channel not dedicated solely to ESCON communication but for mirroring data contained in storage devices) abstract; Col. 5, Lines 22-30; Col. 6, Lines 35-39].

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 3 and 11-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 5,960,216 (Vishlitzky et al) and over US 6,000,020 (Chin et al).

With respect to claims 3 and 11-16, Vishlitzky teaches the invention as claimed but fails to detail backup requests executed where data is duplexed according to the recitation of the claims. However, Chin discloses a storage system with a plurality of controllers (transaction server and backup server) wherein read/write transactions by the transaction server over a first fibre channel network needs not involves backup transaction over a second fibre channel network [Col. 45, Lines 17-37; Col. 46, Lines

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44-55], specifically, a backup and hierarchical storage management processor coupled via a secondary local area network, and coupled to a backup/archival storage device via said SCSI bus and coupled to a mirrored memory via said secondary local area network, and including a computer or microprocessor programmed to carry out backup and/or hierarchical storage management read and write transactions between said mirrored memory and said backup/archival storage device via said secondary local area network such that a primary memory is free to carry out read and write transactions during said backup and hierarchical storage management operations; the transaction processor programmed to carry out read and write transactions with said primary memory over a primary local area network [Col. 46, Lines 28-43]. Therefore it would have been obvious to one of ordinary skill in the art, to execute data backup requests and duplex data accordingly, as taught by Chin, because the result would have isolated two transmission lines where read/write processing on one separate local area network would be carried simultaneously with backup processing over another separate local area network within a single system, as taught by Chin [Col. 46, Lines 56-65].

Allowable Subject Matter

9. Claims 4-7, 10, and 19-29 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US 6,697,960 (Clark et al) teaching method and system allowing mirroring of data into a recovery site in real time.

US 6,665,812 (Blumenau et al) teaching storage array network backup configuration.

US 6,304,980 (Beardsley et al) teaching peer-to-peer backup system with storage controller initiated main processed operations and backup operations.

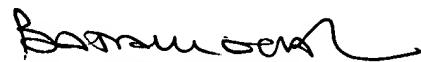
US 6,219,753 (Richardson) teaching dual-ported controller for transaction processing and backup processing.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Pierre-Michel Bataille whose telephone number is (703) 305-0134. The examiner can normally be reached on Tue-Fri (7:30A to 6:00P).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew M. Kim can be reached on (703) 305-3821. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Pierre-Michel Bataille
Primary Examiner
Art Unit 2186
PIERRE BATAILLE
PRIMARY EXAMINER

March 4, 2004